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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,273	09/11/2003	Pierre Etienne Bindschedler	0514-1121	5627

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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,273

Applicant(s)

BINDSCHEDLER ET AL.

Examiner

Ula C. Ruddock

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendment and accompanying remarks filed October 31, 2005. The 112, 2nd paragraph rejections have been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Terry et al. (US 5,981,010). Terry et al. disclose polyurethane-modified bitumen coating compositions. The composition comprises bitumen, a modifying amount of a polyurethane prepared by the reaction of a polyisocyanate and a hydroxyl terminated polybutadiene, and a filler material (abstract). It should be noted that the aromatic oil, filler, and catalyst ingredients are optional in the claims, as currently written, since the amounts of these materials range from 0%. The composition also comprises aromatic oil (col 2, ln 40-41). The filler material can be talc in an amount from 0-40% (col 3, ln 19-25). The urethane polymer has a functionality ranging from about 2.2 to about 2.6 (col 3, ln 50-56). The urethane polymer is in an amount of about 2-25% (col 4, ln 33-36). The composition also has a catalyst system (col 4, ln 40-41). Tackifiers are also used in the composition (col 5, ln 18), which the Examiner is equating to Applicant's additives that improve adhesion of claim 3. As seen in Example 1, the bitumen is present in an amount of 64%, i.e. $350 \text{ grams} / 547.8 \text{ grams} = 0.64$ and the oil is present in an amount of 9.9%, i.e. $54 / 547.8 = 0.0985$ (col 6, ln 50-62).

With regard to applicant's newly added amendment, it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. In re Hutchison, 69 USPQ 138.

Rejection is maintained.

Claim Rejections - 35 USC § 103

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry et al. (US 5,981,010), as shown above, in view of GB 1314352 (GB '342). Terry et al. disclose the claimed invention except for the teaching that the polyurethane has a functionality substantially equal to 2 and that the thermoplastic polyurethane has between 10-40% hard segments.

GB '342 discloses thermoplastic bitumen products containing small amounts of polyurethane. The polyurethane has a functionality of 2-8 and a molecular weight of 400-10,000. It would have been obvious to one having ordinary skill in the art to have used a polyurethane having a functionality of 2 as disclosed by GB '342 in the composition of Terry, motivated by the desire to create a thermoplastic polyurethane having high strength. It also would have been obvious to have used a polyurethane having 10-40% hard segments, motivated by the desire to create a composition having high durability.

5. Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry (US 5,981,010) in view of Vermilion (US 6,021,620). Terry et al. disclose polyurethane-modified bitumen coating compositions. The composition comprises bitumen, a modifying amount of a polyurethane prepared by the reaction of a polyisocyanate and a hydroxyl terminated polybutadiene, and a filler material (abstract). It should be noted that the aromatic oil, filler, and

catalyst ingredients are optional in the claims, as currently written, since the amounts of these materials range from 0%. The composition also comprises aromatic oil (col 2, ln 40-41). The filler material can be talc in an amount from 0-40% (col 3, ln 19-25). The urethane polymer has a functionality ranging from about 2.2 to about 2.6 (col 3, ln 50-56). The urethane polymer is in an amount of about 2-25% (col 4, ln 33-36). The composition also has a catalyst system (col 4, ln 40-41). Tackifiers are also used in the composition (col 5, ln 18), which the Examiner is equating to Applicant's additives that improve adhesion of claim 3. As seen in Example 1, the bitumen is present in an amount of 64%, i.e. $350 \text{ grams} / 547.8 \text{ grams} = 0.64$ and the oil is present in an amount of 9.9%, i.e. $54 / 547.8 = 0.0985$ (col 6, ln 50-62). Terry discloses the claimed invention except for the teaching that the support comprises fibrous material.

Vermilion (US 6,021,620) disclose a penetration pocket useful to seal roof openings. The penetration pocket material is asphalt-based with polymeric materials added to impart strength and toughness. Fibrous material may also be added for increased strength (abstract). The polymeric materials are mixed with the asphalt to form a moldable composition (col 2, ln 9-15). Useful polymeric materials include thermoplastic polyurethane (col 4, ln 35-37). The resulting composition exhibits enhanced thermal stability, strength, and toughness (col 5, ln 12-14). If additional strength is needed, fibrous materials such as glass fibers, polyester fibers, carbon fibers, or other high melting point fibers may be added to the composition (col 5, ln 43-47). It would have been obvious to have used the fibrous materials of Vermilion in the composition of Terry, motivated by the desire to create a composition that has increased strength.

Terry and Vermillion fail to specifically disclose that the functionality of the polyols is between 1.95 and 2.05, that the functionality of the isocyanates is between 2.0 and 2.1, that the ratio of isocyanate/polyol is between 1.0 and 1.1 or more specifically about 1.05. It is the Examiner's position that the functionality of the polyols and isocyanates and the isocyanate/polyol ratio are result effective variables. The functionality of the polyols and isocyanates and the isocyanate/polyol ratio directly affects the impact strength and the thermoplastic nature of the polyurethane. Therefore, it would have been obvious to one having ordinary skill in the art to have used a polyurethane wherein the functionality of the polyols is between 1.95 and 2.05, the functionality of the isocyanates is between 2.0 and 2.1, the ratio of isocyanate/polyol is between 1.0 and 1.1 or more specifically about 1.05, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized the functionality and the ratio, motivated by the desire to create a thermoplastic polyurethane having the desired impact strength.

Response to Arguments

6. Applicant's arguments filed October 31, 2005, have been fully considered but they are not persuasive for the reasons set forth. Applicant argues that Terry's composition is thermosetting, whereas the present invention requires that the composition be thermoplastic. This argument is not persuasive because the nature of the composition is a result of the materials that make up the composition. Terry discloses a polyurethane-modified bitumen coating compositions comprising 40-90% bitumen, 2-25% of a modifying amount of a polyurethane prepared by the reaction of a

polyisocyanate and a hydroxyl terminated polybutadiene having a functionality of 2.2-2.6, and a filler material (i.e. talc) in the amount of 0-40%. The composition also comprises aromatic oil and a catalyst system (col 4, ln 40-41). These limitations are the same as those disclosed by the claimed limitation. Terry fails to specifically disclose that their composition is thermosetting or thermoplastic, but it is the Examiner's position that because Terry discloses the same materials in the same amounts as required by the present invention, it is inherent that Terry be a thermoplastic composition. With respect to situations where Applicant claims properties which are not taught by the prior art, MPEP 2112.01 states when the structure recited in the references is substantially identical to that of the claims, claims properties or functions are presumed to be inherent. Applicant's argument that the thermoplastic nature of the composition is not taught by Terry is not sufficient to establish that the properties are not present in the prior art. Furthermore, Applicant's arguments cannot take the place of evidence in the record. *In re Schulze*, 346 F. 2d 600, 602, 145 USPQ 716, 718 (CCPA 1965).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the

date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C. Ruddock whose telephone number is 571-272-1481. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

UCR *UCR*

Ula Ruddock
Ula C. Ruddock
Primary Examiner
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